

### **REMARKS**

Claims 47-140 constitute the pending claims in the present application. Claims 47-62, 66-71, and 72-79 are currently under consideration having been elected with traverse. Applicants add new claim 141-147. Support for the subject matter of these claims is found throughout the specification. No new matter has been entered. Applicants respectfully request reconsideration in view of the following remarks. Issues raised by the Examiner will be addressed below in the order they appear in the prior Office Action.

#### *Specification*

Applicants have amended the specification to update the status of the parent application to which the present application claims priority.

#### *Claim Interpretation*

In accordance with MPEP 2115, the Examiner alleged in the previous Office Action that claims 66-79 do not further limit claim 47 because these claims related to materials or articles worked upon by the claimed apparatus. Applicants have amended claims 66-79 to clarify their relationship to the claimed apparatus. Specifically, Applicants have amended claims 66-79 such that these claims are directed to embodiments in which the claimed apparatus further comprises particular samples. Accordingly, the amended dependent claims further limit independent claim 47.

#### *35 U.S.C. §103(a)*

Claims 47-52, 62, and 66-79 are rejected under 35 U.S.C. 103(a) as allegedly unpatentable over Berger et al. (US Patent No. 5484573; the “‘573 patent”) in view of Murry (US Patent No. 3614069; the “‘069” patent). Applicants traverse this rejection and contend that the rejection is moot in light of the amended claims.

The ‘573 patent teaches an apparatus for providing energy to samples added to the reaction vessel. The apparatus taught by the ‘573 patent includes multiple transducers affixed to the interior walls of the reaction vessel. As taught by the ‘573 patent, the multiple transducers are used to provide low frequency energy to the sample. As taught by the ‘573 patent, the multiple transducers provide unfocused energy to the sample. As taught by the ‘573 patent and

depicted in the accompanying figure, samples can be added to the interior of the reaction vessel and removed from the interior of the reaction vessel. As taught, the samples flow into and out of the reaction vessel, thus necessarily contacting one or more of the transducers (e.g., the source of energy) affixed to the interior walls of the reaction vessel.

In contrast, the presently claimed invention provides high frequency acoustic energy to samples. Furthermore, the presently claimed invention delivers acoustic energy to samples without contact between the energy source (e.g., the transducer(s)) and the sample. The Examiner has cited the '069 patent's teachings regarding the use of higher frequency energy sources, and alleged that the combination of references renders the presently claimed invention obvious. Applicants respectfully disagree. The '069 patent merely teaches a use for high frequency energy. The '069 patent does not teach the use of focused energy. Furthermore, the '069 patent teaches the use of multiple transducers to achieve the cavitation effects desired for their use of unfocused acoustic energy. Accordingly, the combination of references fails to teach or suggest the use of a high frequency, focused, acoustic energy source in a flow-through system.

Applicants additionally note that multiple, low frequency transducers that each deliver unfocused energy produce a completely different acoustic phenomenon within a reaction vessel, thereby producing a different effect on the sample. Thus, technologically, the deficiencies of the '573 patent are not bridged merely by citing a reference that teaches the use of multiple, unfocused, high frequency transducers applied in a different context, as taught by the '069 patent.

To expedite prosecution, Applicants have amended the claims to more particularly point out certain embodiments of the claimed invention. Specifically, the claimed apparatus includes a single acoustic energy source for delivering focused acoustic energy of 100 kilohertz – 100 megahertz. Such embodiments are distinct from and neither taught nor suggested by the '573 patent. Furthermore, the '069 patent fails to overcome this deficiency. Accordingly, the combination of the cited references fails to render the claimed invention obvious.

Applicants note that Applicants' amendments are made solely to expedite prosecution and are not in acquiescence to the rejection. Applicants reserve the right to prosecute claims of similar or differing scope. In light of Applicants' amendments, reconsideration and withdrawal of this rejection is respectfully requested.

Claims 50 and 54-61 are rejected under 35 U.S.C. 103(a) as allegedly unpatentable over the '573 patent in view of the '069 patent and in view of Peltzer (U.S. Patent No. 5993671; the "'671 patent"). Applicants traverse this rejection and contend that the rejection is moot in light of the amended claims.

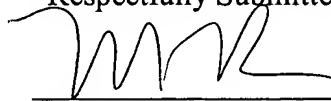
Applicants' arguments outlined above are equally applicable to this grounds of rejection. As amended, the claimed apparatus is configured to include a single transducer which generates focused acoustic energy. Such an apparatus is neither taught nor suggested by the '573 patent. Furthermore, neither the '069 patent nor the '671 patent overcomes the deficiencies of the '573 patent. Accordingly, the combination of the cited references fails to render the claimed invention obvious. Reconsideration and withdrawal of this rejection is respectfully requested.

**CONCLUSION**

In view of the foregoing amendments and remarks, Applicants submit that the pending claims are in condition for allowance. Early and favorable reconsideration is respectfully solicited. The Examiner may address any questions raised by this submission to the undersigned at 617-951-7000. Should an extension of time be required, Applicants hereby petition for same and request that the extension fee and any other fee required for timely consideration of this submission be charged to **Deposit Account No. 18-1945 under Order No. CVRS-P04-001.**

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Respectfully Submitted,



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